

LXVIII.—Notes on the Forficularia.—XXI. *Progress in Dermaptera in 1912 and 1913.* By MALCOLM BURR, D.Sc., F.E.S., F.Z.S., F.G.S., F.L.S.

IN response to the suggestion of several friends I offer the following notes on the progress in our study of the taxonomy of the Dermaptera since the appearance of my Fascicule in Wytzman's 'Genera Insectorum' in 1911.

It will be observed that several new genera and a large number of new species have been characterized, and several important alterations of generic position and of synonymy effected.

I hope at an early date to publish a paper which will very considerably modify the existing system in detail, though not much in general, embodying the results of the comparative study of the opisthomeres, the wing-venation, the manubrium of the ninth sternite of the male, and of the genital armature of the male, and of the gonapophyses of the female, in a considerable amount of material, amplifying and enlarging the very valuable work of Zacher on these lines. The results will profoundly modify the generic arrangement of the Psalidæ, but will not have any very far-reaching effect upon the other groups.

The following is the list of works referred to in this paper which have appeared since the publication of the Fascicule on Dermaptera:—

- BURR, MALCOLM, D.Sc. (1911<sup>15</sup>.) "Contribution to our Knowledge of Indian Earwigs." *Journal of the Asiatic Society of Bengal*, vol. vii. no. 11, pp. 771-800 (December, 1911).
- . (1912<sup>1</sup>.) "A new Species of *Arixenia* (Dermaptera)." *Ent. Month. Mag.* (2) xxiii. pp. 105-106, fig. (1912).
- . (1912<sup>3</sup>.) "Interesting Dermaptera in the Budapest Museum." *Annales Musei Nationalis Hungarici*. x. pp. 281-284 (1912).
- . (1912<sup>4</sup>.) "Die Dermapteren des k. k. naturhistorischen Hofmuseums in Wien." *Annalen des k. k. naturhistorischen Hofmuseums*, pp. 63-108. (Wien, 1912.)
- . (1912<sup>5</sup>.) "Ueber einige neue und interessante Dermapteren aus dem Königl. Zoolog. Museum Berlin." *SB. Ges. naturf. Fr. Berlin*, no. 5, pp. 310-330, figs. 1-5 (1912).
- . (1912<sup>6</sup>.) "Dermaptera from Java and Sumatra." *Notes Leyden Mus.* vol. xxiv. Note 37, pp. 225-229 (1912).
- . (1912<sup>7</sup>.) "Nachträge zur meiner Bearbeitung der Dermapteren des k. k. naturhistorischen Hofmuseums." *Annalen des k. k. Hofmus.* Wien, pp. 331-340 (1912).
- . (1913<sup>3</sup>.) H. Sauter's 'Formosa-Ausbeute: Dermapteren.' *Ent. Mitth.* ii. pp. 65-70 (1913).
- . (1913<sup>4</sup>.) "Zoological Results of the Abor Expedition, 1911-12. —X. Dermaptera." *Rec. Ind. Mus.* viii. pp. 135-147.

- BURR, MALCOLM, D.Sc. (1913<sup>5</sup>.) "Indian Dermaptera collected by Dr. A. D. Imms." Journ. Proc. Asiat. Soc. Bengal (n. s.), ix. no. 5, pp. 183-187 (1913).
- (1913<sup>6</sup>.) "New Guinea Dermaptera, collected by Dr. P. N. van Kampen and K. Gjellerup (1910-1911)." Tijdschrift voor Entomologie, Deel lvi. (1913).
- (1913<sup>7</sup>.) "Notas de Dermapterologia Americana." *Extracto*, Rev. Chil. Hist. Nat. xvii. no. 3, pp. 166-171 (June, 1913).
- (1914<sup>1</sup>.) "Notes on the Forficularia.—XX. A new Genus and Five new Species from Australia." Ann. & Mag. Nat. Hist. ser. 8, vol. xiii. pp. 72-77, pl. iv. (Jan. 1914).
- BORELLI, Dr. ALFREDO. (1911<sup>1</sup>.) "Diagnosi preventive di dermatteri nuovi della regione indiana." Boll. Mus. Tor. vol. xxvi. no. 640, pp. 1-4 (June, 1911).
- (1911<sup>2</sup>.) "Specie nuove di dermatteri di Costa Rica." Bol. Mus. Tor. vol. xxvi. no. 644, pp. 1-10.
- (1912<sup>1</sup>.) "Nuovo genere di Dermatteri della Repubblica Argentina." Boll. Mus. Tor. vol. xxvii. no. 649.
- (1912<sup>2</sup>.) "Di alcuni Dermatteri della Repubblica Argentina." Boll. Mus. Tor. vol. xxvii. no. 660.
- (1912<sup>3</sup>.) "Dermaptères nouveaux ou peu connus du Muséum de Paris." Bull. Mus. Hist. Nat. Paris, 1912, no. 4, pp. 1-20.
- SCHTSCHERBAKOFF, TH. S. (1912.) "Dermaptères de la Collection de v. Motschoulsky." In Russian: Rev. russe d'Ent. 1912, xii. p. 349.
- BURR, MALCOLM, and JORDAN, K. (1913.) "On *Arixenia*, Burr, a Suborder of Dermaptera." Trans. 2nd Int. Congr. Entom. vol. ii. p. 398, text-figs. 12-28 (Oct. 1913).

## Order DERMAPTERA.

## Suborder ARIXENINA.

## Genus ARIXENIA, Jordan.

Add:—

2. *A. jacobsoni*, Burr, (1912<sup>1</sup>) p. 105, fig. Java.

The morphology and anatomy of this creature has been dealt with at some length by Jordan and Burr (1913).

## Suborder FORFICULINA.

## Superfamily PROTODERMAPTERA.

## Family Pygidicranidæ.

## Subfamily ANATELINÆ.

Add:—

## 2. Genus BLANDEX, Burr.

for

1. *B. solvendus*, Burr, (1912<sup>7</sup>) pp. 331, 332, fig. S. Africa.

## Subfamily KARSCHIELLINÆ.

## 1. Genus KARSCHIELLA, Verhoeff.

Very likely *K. bidentata*, Zacher, is identical with *K. newvei*, Burr.

## 2. Genus BORMANSIA, Verhoeff.

Add:—

- 3.
- B. orientalis*
- , Borelli, (1912
- <sup>3</sup>
- ) p. 1. Mozambique.

## Subfamily PYGIDICRANINÆ.

## 4. Genus KALOCRANIA, Zacher.

Add:—

7. *K. raja*, Burr, (1911<sup>15</sup>) p. 773. India.  
 8. *K. semenoffi*, Burr, (1912<sup>5</sup>) p. 311, fig. 1. Amu Darja.  
 9. *K. grotei*, Burr, (1912<sup>5</sup>) p. 312, fig. 2. German East Africa.

## 5. Genus DICRANA, Burr.

Add:—

- 11.
- D. hackeri*
- , Burr, (1914
- <sup>1</sup>
- ) p. 72, fig. Queensland.

## 8. Genus PYGÆ, Burr.

Add:—

6. *P. sauteri*, Burr, (1912<sup>5</sup>) p. 314. Formosa.  
 7. *P. shortridgei*, Burr, (1914<sup>1</sup>) p. 73. W. Australia.

## Subfamily PYRAGRINÆ.

The genus *Propyragra*, Burr (1910), coincides with *Pyragropsis*, Borelli (1908), fresh material showing that Borelli was deceived by a defective specimen when he erected *Pyragropsis*; v. Burr, (1912<sup>7</sup>) p. 332.

*Psalis thoracica*, Serv., is to be moved to *Pyragropsis*, as evidenced by fresh material in my collection.

## Subfamily ECHINOSOMATINÆ.

## 1. Genus ECHINOSOMA, Serv.

Add:—

- 16.
- E. dentiferum*
- , Borelli, (1912
- <sup>3</sup>
- ) p. 3. Bhutan.

## Family Labiduridæ.

In the key to the subfamilies (p. 24) there is a serious mistake.

For	4.	“metasternum . . . . .”
	4.4.	“metasternum . . . . .”
read	4.	“mesosternum . . . . .”
	4.4.	“mesosternum . . . . .”

As a matter of fact, this character does not hold good throughout the group, as in the recently discovered Psalid genus *Spondox* the mesosternum is truncate posteriorly.

The best feature to characterize the *Psalinæ* is the great length of the membranous manubrium on the inner margin of the ninth sternite of the male, which in the *Psalinæ*, and only here, is at least one and a half, often three, times as long as the sternite itself. This is quite a new character, and will be discussed comparatively in a paper shortly to be published.

Subfamily *ALLOSTETHINÆ*.

2. Genus *GONOLABIDURA*, Zacher.

Add:—

2. *G. astruci*, Burr, (1911<sup>15</sup>) p. 776. S. India.

With regard to *G. volzi*, I have since seen Zacher's type; it is distended and bleached by spirit, but undoubtedly identical with the syntypes in my possession of *G. piligera*, Borm.

3. Genus *ALLOSTETHELLA*, Zacher.

I have since compared the types of Zacher's two species with that of *A. doriae*, Dubr. I have no doubt whatever that they are mere colour-variants of one and the same species, the discoidal spot of the elytra being very unstable in size and intensity.

Subfamily *ESPHALMENINÆ*.

1. Genus *ESPHALMENUS*, Burr.

Add:—

6. *E. porteri*, Burr, (1913<sup>7</sup>) p. 170, fig. 21. Chili.

Subfamily *PSALINÆ*.

Genus *GONOLABIS*, Burr.

- 8. *G. woodwardi*, Burr, is removed to *Mongolabis*.
- 9. *G. brunneri*, Dohrn, " " "
- 11. *G. pacifica*, Erichs., " " "
- 6. *G. michaelseui*, Burr, " " *Eulabis*.
- 1. *G. kirbyi*, Burr, " " "
- 12. *G. kii-kentali*, Zacher, is identical with the true *G. javana* of Bormans. I have compared the types, which are the only two specimens extant, of this very well-characterized species.

Genus *ANISOLABIS*, Fieber.

- 3. *A. vosseleri*, Burr, is removed to *Logicolabis*, Zacher.
- 6. *A. incerta*, Borm., is removed to *Idolopsalis*, and has nothing to do with *A. festre*.
- 8. *A. eteronoma*, Bor., and 15. *A. aporonoma*, Bor., I consider indistinguishable from 14. *A. annulipes*, Luc.

18. *A. felix*, Burr, is identical with *Horridolabis paradoxwa*, Zacher. The name *felix* has priority.  
 28. *A. albovittata*, Burr, as shown by fresh material, is a *Prolabia*.  
 38. *A. taurica*, F. de W. The reference is given wrong. It should be:—Orth. Ross. p. 47, v. Schtscherbakoff, (1912) p. 352. Probably it is a synonym of *Euborellia mæsta*, Géné.  
 46. *A. athiopica*, Burr, is identical with *Gelotolabis burri*, Zacher.

Add:—

48. *A. horvathi*, Burr, (1913<sup>3</sup>) p. 281. N. Guinea.  
 49. *A. penetrans*, Burr, (1912<sup>4</sup>) p. 78. Mayotte.  
 50. *A. addita*, Burr, (1913<sup>3</sup>) p. 66, fig. Formosa.  
 51. *A. pervicina*, Burr, (1913<sup>4</sup>) p. 137. N.E. Assam.

Genus EUBORELLIA, Burr.

Add:—

14. *E. astruci*, Burr, (1911<sup>15</sup>) p. 779. S. India.  
 15. *E. aborensis*, Burr, (1913<sup>4</sup>) p. 137. N.E. Assam.

Genus PSALIS, Serv.

Add:—

18. *P. insulana*, Borelli, (1912<sup>3</sup>) p. 5. Grand Comoro.  
 19. *P. haenschi*, Burr, (1912<sup>5</sup>) p. 317, fig. 3. Ecuador.

Genus LABIDURODES, Dubrony.

*L. robustus*, Dubr., has been rediscovered; in the structure of the sternal plates it agrees with *Titanolabis*, Burr.

Add:—

Genus HETEROLABIS, Borelli.

for

1. *H. brasiliensis*, Bor., (1912<sup>3</sup>) p. 12. Brazil.

*Note.*—The whole classification of the Psalinæ is in a state of flux, and will be entirely remodelled in a paper shortly to be published.

Subfamily PARISOLABINÆ.

2. Genus PSEUDISOLABIS, Burr.

Add:—

4. *P. immsi*, Burr, (1913<sup>5</sup>) p. 185, fig. Himalayas.

Add:—

4. Genus PARISOPSA LIS, Burr.

for

1. *P. spryi*, Burr, (1914<sup>1</sup>) p. 74. Victoria.

## Subfamily BRACHYLABINÆ.

## 2. Genus BRACHYLABIS, Dohrn.

Remove 4. *B. geniculata*, Montr., to *Nannisolabis*.

## 4. Genus NANNISOLABIS, Burr.

Bring here 3. *N. geniculata*, Montr.

Add:—

4. *N. formicoides*, Burr, (1911<sup>15</sup>) p. 781. S. India.

## 6. Genus METISOLABIS, Burr.

Remove *M. bifoveolata*, Bol., to *Ctenisolabis*, Verh.

## 8. Genus LEPTISOLABIS, Verhoeff.

Add:—

5. *L. aliena*, Borelli, (1911<sup>2</sup>) p. 1. Costa Rica.

## Superfamily EUDERMAPTERA.

## Family Labiidæ.

## Subfamily SPONGIPHORINÆ.

## 1. Genus SPONGIPHORA, Serv.

Bring here:—

6. *S. buprestoides*, Kirby, from *Labia*.

## 3. Genus VOSTOX, Burr.

Add:—

4. *V. dugueti*, Borelli, (1912<sup>3</sup>) p. 13. Mexico.

## 5. Genus SPONGOVOSTOX, Burr.

No. 18. *S. nigrorufus*, Burr, is removed to *Hamaxus*.

Also add:—

25. *S. vicinus*, Burr, (1902<sup>7</sup>) p. 336, fig. 11. S. America.

26. *S. alter*, Burr, (1912<sup>7</sup>) l. c. fig. 13. „

27. *S. basalis*, Burr, (1912<sup>7</sup>) p. 337, fig. 16. „

28. *S. recurvens*, Burr, (1912<sup>7</sup>) p. 337, fig. 15. „

30. *S. aborum*, Burr, (1913<sup>4</sup>) p. 140. N.E. Assam.

And bring here:—

29. *S. tricolor*, Kirby, out of *Labia*, with which *S. parvus*, Burr, (1912<sup>7</sup>) p. 336, fig. 12, is identical.

## 6. Genus MARAVA, Burr.

I have since seen the type of *Labia wallacei*, Dohrn; it is a female, but is identical with *Labia grandis*, Dubr., and not with *Prolabia arachidis*, Yers., although it has a strong superficial resemblance to the latter. The correct name is therefore *Marava wallacei*, Dohrn, and *M. grandis* is reduced to synonymy.

We must refer here, either as a variant or distinct species,

2. *M. subaptera*, Kirby, out of *Labia*.

Also add:—

3. *M. doddi*, Burr, (1914<sup>1</sup>) p. 75. Queensland.

4. *M. hackeri*, Burr, (1914<sup>1</sup>) p. 76. „

5. *M. victorie*, Burr, (1914<sup>1</sup>) p. 77. Victoria.

## Subfamily LABIINÆ.

## 1. Genus CHÆTOSPANIA, Karsch.

Add:—

22. *C. stiletta*, Burr, (1911<sup>15</sup>) p. 786. S. India.

23. *C. infernalis*, Burr, (1913<sup>3</sup>) p. 167, fig. Formosa.

## Genus LABIA, Leach.

As noted above, the following are removed from this genus:—

16. *L. subaptera*, Kirby, to *Marava*.

26. *L. tricolor*, Kirby, to *Spongovostox*.

27. *L. buprestoides*, Kirby, to *Spongiphora*.

Also

41. *L. tuberculata*, Borelli, to *Spongovostox*.

Add:—

49. *L. pyropi*, Borelli, (1913<sup>3</sup>) p. 15. Burma.

And delete

49. *L. modesta*, Bruner (cf. no. 38) (entered twice in error).

## 5. Genus PROLABIA, Burr.

As already noted, delete *Labia wallacei*, Dohrn, as a synonym of *P. arachidis*, and bring here

12. *Anisolabis albiovittata*, Burr.

Add:—

13. *P. hildebrandti*, Burr, (1912<sup>5</sup>) p. 324, fig. 5. Madagascar.

## Subfamily SPARATTINÆ.

## 4. GENUS PARASPARATTA, Burr.

Add:—

- 8.
- P. picadoi*
- , Borelli, (1911
- <sup>2</sup>
- ) p. 3. Costa Rica.

Add:—

## 6. GENUS METASPARATTA, Borelli.

for

- 1.
- M. chacoensis*
- , Borelli, (1912
- <sup>1</sup>
- ) p. 3. Argentine.

## Family Chelisoehidæ.

## 4. GENUS KLEIDUCHUS, Burr.

Bring here

- 2.
- K. malyachus*
- , Borm., from
- Chelisoehes*
- .

## 6. GENUS PROREUS, Burr.

Add:—

- 8.
- P. delicatulus*
- , Burr, (1911
- <sup>15</sup>
- ) p. 789. S. India.
- 
- 9.
- P. cunctator*
- , Burr, (1911
- <sup>15</sup>
- ) p. 790. S. India.

## 7. GENUS CHELISOCHES, Scudder.

- 6.
- C. malyachus*
- , Borm., as noted, is removed to
- Kleiduchus*
- .

Add:—

- 10.
- C. formosanus*
- , Burr, (1912
- <sup>7</sup>
- ) p. 339. Formosa.
- 
- 11.
- C. tigris*
- , Burr, (1913
- <sup>4</sup>
- ) p. 143. N.E. Assam.

## 11. GENUS HAMAXAS, Burr.

Bring here from *Spongiphora*:—

- 5.
- H. nigrorufus*
- , Burr.

Add:—

- 6.
- H. kempfi*
- , Burr, (1913
- <sup>4</sup>
- ) p. 144. N. India.

## Family Forficulidæ.

The Chelidurinae and Anechurinae should be fused into one subfamily. The whole group is under rearrangement.

## Subfamily ANECHURINÆ.

## 4. GENUS PTERYGIDA, Verhoeff.

The references to pl. vi. figs. 16 a, 16 b, apply to *P. circulata*,



not to *P. jagori*. I have since seen a water-colour drawing of the type of *P. jagori*: the creature is unknown to me, and does not appear to be connected with *Timomenus* at all.

## 7. GENUS ANECHURA, Scudder.

Add:—

17. *A. stoliczkae*, Burr, (1911<sup>15</sup>) p. 792. N. India.

## Subfamily FORFICULINÆ.

## 4. GENUS HOMOTAGES, Burr.

This genus should be removed to the Labiinae; in the structure of the tarsi and also of the genital armature of the male, as well as in other features, it comes nearest to *Chartospania*.

## 8. GENUS HYPURGUS, Burr.

Add:—

1 a. *H. humeralis*, Kirby, var. *vittatus*, Burr, (1911<sup>15</sup>) p. 799. N. India.

## 9. GENUS DORU, Burr.

Add:—

7. *D. leucopteryx*, Burr, (1912<sup>4</sup>) p. 99. Venezuela.

8. *D. plutensis*, Borelli, (1912<sup>2</sup>) p. 2. Argentine.

## 10. GENUS GUANCHIA, Burr.

Add:—

6. *G. medica*, Burr, (1911<sup>15</sup>) p. 793. S. India.

7. *G. chirurga*, Burr, (1911<sup>15</sup>) p. 749. Sikkim.

## 14. GENUS FORFICULA, Linn.

I think that 15. *F. ignota*, Burr, and 5. *F. aceris*, Burr, are both mere colour-varieties of 6. *F. beelzebub*, Burr.

No. 10. *F. robusta*, Sem., is obviously identical with *F. scudderi*, Borm., which latter was always regarded as identical with *F. tomis*, Kol. Since Semenoff has shown that the Far Eastern species is distinct, de Bormans' old name *F. scudderi* (1880) must stand, against *F. robusta*, Sem. (1908).

Add:—

42. *F. beebei*, Burr, (1911<sup>15</sup>) p. 295. Himalayas.

Subfamily *NEOLOBOPHORINÆ.*1. Genus *NEOLOBOPHORA*, Scudder.

Add:—

5. *N. insolita*, Borelli, (1911<sup>2</sup>) p. 9. Costa Rica.  
 6. *N. handlirschi*, Burr, (1912<sup>4</sup>) p. 103. Brazil.

Subfamily *ANCISTROGASTRINÆ.*2. Genus *TRISTANELLA*, Borelli.

Add:—

3. *T. inermis*, Borelli, (1911<sup>2</sup>) p. 7. Costa Rica.

3. Genus *SARAKAS*, Burr.

Add:—

4. *S. borellii*, Burr, (1912<sup>4</sup>) p. 105. Peru.

4. Genus *PRAOS*, Burr.

Add:—

3. *P. robustus*, Borelli, (1911<sup>2</sup>) p. 5. Costa Rica.

Subfamily *OPISTHOCOSMINÆ.*14. Genus *EPARCHUS*, Burr.

Add:—

7. *E. oberthuri*, Borelli, (1912<sup>3</sup>) p. 19. Bhutan.

16. Genus *CORDAX*, Burr.

Add:—

4. *C. politus*, Burr, (1911<sup>15</sup>) p. 798. Burma.  
 5. *C. van kampeni*, Burr, (1913<sup>6</sup>) p. 315. New Guinea.

17. Genus *SYNTONUS*, Burr.

Add:—

2. *S. ? ensifer*, Burr, (1912<sup>4</sup>) p. 107. Peru.

Subfamily *DIAPERASTICINÆ.*1. Genus *DIAPERASTICUS*, Burr.

I have seen the type of *D. cagnii*; it is a brachypterous melanic form of *D. erythrocephalus*.